REMARKS/ARGUMENTS

I. Introduction

In response to the Office Action dated June 19, 2003, please consider the following remarks. Claims 1 -27 remain in the application. Re-examination and re-consideration of the application, as amended, is requested. A typographical error in Claim 9 has been corrected.

II. Office Action Prior Art Rejections

In paragraph 1, the Office rejected claims 1-9, 14-16, 18-21, and 23-25 under 35 U.S.C. §102(e) as being anticipated by the Martin et al. reference (U.S. 6,061,062). Applicants respectfully traverse these rejections.

Claim 1 recites:

A communications system, comprising:

a gateway, communicatively coupleable to a terrestrially-based network;

a communications platform disposed in a stratospheric location, for transponding information between at least one of a plurality of user terminals and the gateway.

The Martin reference does not teach a platform having a transponder, as recited in Applicants' claim 1. In fact, the Martin reference teaches away from claim 1 for the reasons discussed below.

An overview of the architecture of the Martin reference is provided in FIG. 1:

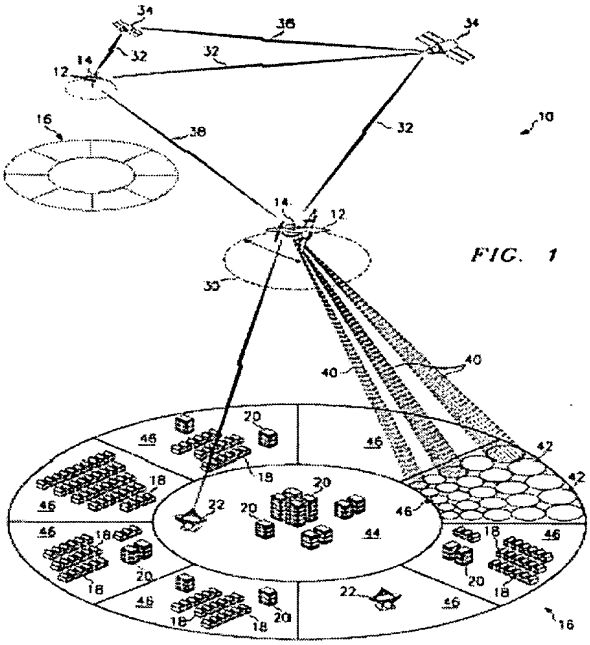
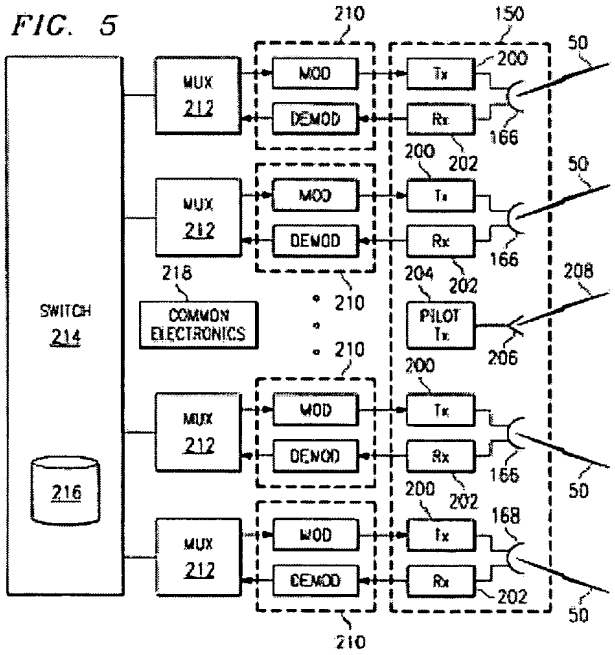


FIG. 1

The ASN (14) of the Martin reference includes a switching network 214 and a database 216 that are used to route messages to the proper destination. This is described on col. 9, lines 17-59,

FIG. 5



and is illustrated in FIG. 5 above.

The Martin reference teaches a system wherein the decision as to where the information is to be transmitted is made by the platform itself. This necessitates a rather large and complex communication platform.

In contrast, the communications platform of the Applicants' invention includes a transponder, which essentially receives communications from the ground terminals and provides those communications to the gateways in a "bent-pipe" communication arrangement. One of the advantages of the Applicants' design is that the communication platforms of Applicants' invention are smaller, lighter, and easier and less expensive to control and maintain.

Claim 4 recites that the user terminal includes a user terminal antenna characterizable by a beamwidth; and the communications platform maintains an apparent position relative to the user terminal within the beamwidth of the user terminal antenna. The Martin reference neither teaches nor suggests such an arrangement. The Martin reference teaches that the aircraft flies above the service region. In a particular embodiment, the aircraft's orbit is described as a circle with a diameter of approximately five to eight miles (see col. 3, lines 61-64) in which the aircraft flies over a service region. There is no teaching or suggestion that the ASN can maintain an apparent position relative to the user terminal within the beamwidth of the user terminal antenna. In fact, Martin mentions that since communication system 10 operates at MMW frequencies, very narrow and focused beamwidths can be realized using small antenna apertures in ASN 14, CPE 18, BPE 20, and gateway devices (see col. 4, lines 8-11). With an orbit of about five to eight miles, this teaches away from a platform maintaining an apparent position relative to the user terminal within the beamwidth of the user terminal antenna.

Claim 6 recites that the gateway communicates with more than one communications platform. This is neither suggested nor shown by the Martin reference. Martin merely indicates that adjacent ASNs 14 servicing adjacent service regions 16 may communicate through one or more satellites 34 using satellite links 32 and inter-satellite links 36, or may communicate directly using infrared, microwave, or other suitable inter-ASN link 38 (see col. 4, lines 18-22). The Examiner points to col. 5, lines 50-65 and col. 3 lines 64-67 and center of fig. 1 wherein Martin mentions that "multiple, networked ASNs 14 may provide an overlapping coverage in areas " and "three aircraft 12 flying eight hour missions each can provide continuous communication capabilities to service region

16 for twenty-four hours a day". Center of Fig.1 appears to show gateway 22 communicating with only one ASN 14 and aforementioned intercommunication between adajcent ASNs 14. None of these sections pointed to by the Examiner teach or suggest the gateway communicating directly with more than one communications platform. Although the 'direct' communication is an inherent aspect of the claim, Claim 6 has been herein amended to clarify this aspect.

Claims 2-14 depend directly or indirectly from Claim 1 and are allowable for generally the same reasons discussed above in connection with Claim 1 and further due to the additional limitations recited therein.

With regard to Claim 15, as discussed earlier, the Martin reference neither teaches nor suggests "the communications platform maintains an apparent position relative to the user terminal within a beamwidth of the user terminal antenna" and "transponding the first signal from the stratosphere-based communications platform to a gateway ground station". Therefore Claim 15 is distinguishable from and allowable over the Martin reference.

Claims 16 and 17 depend from Claim 15 and are allowable for generally the same reasons discussed above and further due to the additional limitations recited therein.

With regard to Claim 18, as discussed earlier, the Martin reference neither teaches nor suggests " the communications platform maintains an apparent position relative to the user terminal within a beamwidth of a user terminal antenna" and "transponding the first signal from the stratosphere-based communications platform to a gateway ground station". Therefore Claim 18 is distinguishable from and allowable over the Martin reference.

Claims 19-22 depend directly or indirectly from Claim 18 and are allowable for generally the same reasons discussed above and further due to the additional limitations recited therein.

With regard to Claim 23, the Martin reference neither teaches nor suggests " the user terminal communicates with a gateway via a stratospheric-based communications platform transponder". Therefore, Claim 23 is distinguishable from and allowable over the Martin reference.

With regard to Claim 24, the Martin reference, as discussed earlier neither teaches nor suggests " the communications platform maintains an apparent position relative to the user terminal within the beamwidth of the user terminal antenna". Therefore, Claim 24 is distinguishable from and allowable over the Martin reference.

Claims 24 and 25 depend from Claim 23 and are allowable for generally the same reasons discussed above and further due to the additional limitations recited therein.

Claim 12 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. Claim 12 which depends from Claim 1 is believed to be allowable generally for the same reasons as Claim 1.

Claim 13 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of McKenna et al (US 6,377,802) and further in view of Emmons Jr. et al (US 6,570,858).

Emmons discusses using spatial diversity in the context of two satellites (22 and 24) configured to form a time division duplex (TDD) pair 50 for providing radio communciations services to subscriber units that are located in the dual coverage area 37 (which is established where the second coverage area 35 of the second satellite 24 overlaps the first coverage area 34 of the first satellite 22) but are not located in the repeater coverage area 41 such as SU 33. However, neither McKenna nor Emmons Jr. cures the deficiencies in teaching of Martin (discussed earlier in connection with Claim 1) and, therefore, claim 13 which depends from Claim 1 is allowable over the cited references.

It appears that the Examiner is using impermissible hindsight to selectively pick and choose pieces from the different references to propose this combination. There does not appear to be any suggestion or motivation or incentive provided by the references themselves to support the combination. It is clear that the prior art must make a suggestion of, or provide an incentive for a claimed combination of elements to establish a prima facie case of obviousness. See In re Oetiker, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); Ex parte Clapp, 227 U.S.P.Q. 972, 973 (Bd. Pt. App. 1985).

Claims 10, 17, 22 and 26-27 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Brown (US 6,157,621).

The Examiner points to col. 35, lines 40-50 of the Brown reference wherein the gateway are described as being "dedicated fixed sites consisting of two antenna subsystems separated by 30 to 50 KM. The sites are connected by line-of-sight microwave or fiber optic links. This separation provides spatial diversity that virtually eliminates rain outages." In col. 36, lines 8-9, it is again mentioned that "Spatial diversity is used to virtually eliminate rain outages". Furthermore, the Brown reference is discussing the gateways in the context of a satellite communication system

wherein the preferred embodiments comprises low Earth orbit satellite systems and not a stratospheric platform system as recited in the claims in question.

With regards to Claim 10 which recites " the gateway comprises a plurality of gateway antennae, separated from each other by a distance sufficient to provide spatial diversity in communicating with the communications platform", the spatial diversity ensures communications by the antennae with a communications platform without interference. The present configuration permits close proximity of multiple gateway antennas to serve each platform, but each gateway antenna must be sufficiently separated from adjacent gateway antennas to ensure spatial diversity to permit frequency re-use. The proposed combination neither teaches nor suggests this configuration. Further, Claim 10 which depends from Claim 1 is also allowable for generally the same reasons discussed earlier in connection with Claim 1.

Additionally, *"Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. V. SGS Importers Int'l, 73 F. 3d at 1087, 37 USPQ2d at 1239, citing W. L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13.* In this instance, there does not seem to be any reason to combine the references other than Applicants' disclosure. Therefore, the rejection should be reconsidered and withdrawn.

The arguments discussed above in connection with Claim 10 also apply to Claim 17 which is dependent on Claim 15 and Claim 22 which is dependent on Claim 18 and Claim 26 which is dependent on Claim 23, and Claim 27 which is dependent on Claim 26. Further, Claims 17, 22, 26 and 27 are also allowable for generally the same reasons discussed earlier in connection with Claims 15, 18 and 23.

Claim 11 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Brown and further in view of Antonio et al (US 6,339,611). The Examiner points to col 8, lines 30-65 for use of diversity. The noted section appears to discuss only polarization diversity. IN any event, Antonio does not cure the earlier-discussed deficiencies in teachings of Martin and Brown in a manner that renders Claim 11 obvious. Therefore, it is submitted that Claim 11 is allowable over the cited references. Again the Examiner appears to be using impermissible hindsight to propose this combination.

III. Conclusion

In conclusion, it is respectfully submitted that all of the pending claims are allowable over cited references. Reconsideration of the rejections and allowance are respectfully requested. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

III. Note Concerning Office Action

It is noted for the record that the Examiner appears to have inadvertently omitted listing U.S. patent No. 6,377,802 on PTO Form 892. Although this patent has been applied, it was not listed on the form.

Additionally, the Examiner is hereby requested to send a copy (with the Exmainer's initials) of the PTO Form 1449 that was received by the Office on March 26, 2003. Another copy of this form is enclosed herewith for the Examiner's convenience.

Respectfully submitted,
By their attorneys,

Date: September 16, 2003

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